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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/698,822	10/30/2003	Paul C. Allen	107262.184US2 and 006256	1260

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APPLIED MATERIALS, INC.
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EXAMINER	
THOMAS, BRANDI N	

ART UNIT	PAPER NUMBER
2873	

DATE MAILED: 08/22/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/698,822	ALLEN ET AL.	
	Examiner	Art Unit	
	Brandi N. Thomas	2873	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *31 July 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) *18-23* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-17* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *30 October 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *3/5/04*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☒ Other: *Detailed Action*.

DETAILED ACTION

Election/Restrictions

1. Claims 18-23 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 7/31/06.

2. Applicant's election without traverse of claims 1-17 in the reply filed on 7/31/06 is acknowledged.

Information Disclosure Statement

3. Acknowledgement is made of receipt of Information Disclosure Statement(s) (PTO-1449) filed 3/5/04. An initialed copy is attached to this Office Action.

Claim Objections

4. Claim 3 is objected to because of the following informalities: In claim 3, line 2, the word "a" should be the work "and ". Appropriate correction is required.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-3 are rejected under 35 U.S.C. 102(b) as being anticipated by Smith, Jr. (4203672).

Regarding claim 1, Smith, Jr. discloses, in figures 1, 2A, and 2B, a multiple beam generator for use in a scanning system (col. 3, lines 52-54), said generator comprising: an acousto-optic deflector (AOD) (2) which during use receives a laser beam (1α) and generates a deflected beam (col. 3, lines 56-58), the deflection of which is determined by an AOD control signal (col. 3, lines 63-66); a diffractive element (3) which generates an array of input beams from the deflected beam (col. 4, lines 11-13 and 17-21); and a control circuit (10) which during operation generates the AOD control signal and varies a characteristic of the first control signal to account for errors in the scanning system (col. 4, lines 51-55, 63-66, and col. 6, lines 5-7).

Regarding claim 2, Smith, Jr. discloses, in figures 1, 2A, and 2B, a multiple beam generator for use in a scanning system (col. 3, lines 52-54), wherein the control circuit (10) receives a feedback signal that is a measure of a deflection error of an output beam array from a desired position, said output beam array derived from said input beam array and wherein the control circuit (11) generates the AOD control signal to reduce the deflection error (col. 4, lines 51-62).

Regarding claim 3, Smith, Jr. discloses, in figures 1, 2A, and 2B, a multiple beam generator for use in a scanning system (col. 3, lines 52-54), further comprising an acousto-optic modulator (AOM) (2) which receives the array of beams a separately modulates each of the received beams in accordance with a second control signal to produce an output beam array (col. 4, lines 63-68).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. Claims 4-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Smith, Jr. (4203672) as applied to claim 1 above, and further in view of Allen et al. (6731320 B1).

Regarding claim 4, Smith, Jr. discloses, in figures 1, 2A, and 2B, a multiple beam generator for use in a scanning system (col. 3, lines 52-54) but does not specifically disclose wherein the control circuit includes a table of corrections which the control circuit uses to generate the AOD control signal. Allen et al. discloses, in figure 4, wherein the control circuit includes a table of corrections which the control circuit uses to generate the AOD control signal (col. 7, lines 29-40). Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the device of Smith, Jr. with the table of Allen et al. for the purpose of correcting errors (col. 7, lines 29-40).

Regarding claim 5, Smith, Jr. discloses, in figures 1, 2A, and 2B, a multiple beam generator for use in a scanning system (col. 3, lines 52-54) but does not specifically disclose wherein said table stores corrections for stripe position errors associated with the scanning system. Allen et al. discloses, in figure 4, wherein said table stores corrections for stripe position errors associated with the scanning system (col. 7, lines 59-61). Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the

device of Smith, Jr. with the table of Allen et al. for the purpose of correcting errors (col. 7, lines 29-40).

Regarding claim 6, Smith, Jr. discloses, in figures 1, 2A, and 2B, a multiple beam generator for use in a scanning system (col. 3, lines 52-54) but does not specifically disclose wherein said table stores corrections for variation in beam velocity over a scan line within the scanning system. Allen et al. discloses wherein said table stores corrections for variation in beam velocity over a scan line within the scanning system (col. 4, lines 31-34). Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the device of Smith, Jr. with the table of Allen et al. for the purpose of correcting errors (col. 7, lines 29-40).

Regarding claim 7, Smith, Jr. discloses, in figures 1, 2A, and 2B, a multiple beam generator for use in a scanning system (col. 3, lines 52-54) but does not specifically disclose wherein said table stores corrections for facet-by-facet position error attributable to a polygon mirror in the scanning system. Allen et al. discloses wherein said table stores corrections for facet-by-facet position error attributable to a polygon mirror in the scanning system (col. 4, lines 34-36). Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the device of Smith, Jr. with the table of Allen et al. for the purpose of correcting errors (col. 7, lines 29-40).

Regarding claim 8, Smith, Jr. discloses, in figures 1, 2A, and 2B, a multiple beam generator for use in a scanning system (col. 3, lines 52-54) but does not specifically disclose wherein said table stores corrections for intensity errors associated with the scanning system. Allen et al. discloses wherein said table stores corrections for intensity errors associated with the

scanning system (col. 7, lines 8-10). Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the device of Smith, Jr. with the table of Allen et al. for the purpose of correcting errors (col. 7, lines 29-40).

Regarding claim 9, Smith, Jr. discloses, in figures 1, 2A, and 2B, a multiple beam generator for use in a scanning system (col. 3, lines 52-54) but does not specifically disclose wherein said table stores corrections for scan-line intensity variations within the scanning system. Allen et al. discloses wherein said table stores corrections for intensity errors associated with the scanning system (col. 7, lines 8-10). Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the device of Smith, Jr. with the table of Allen et al. for the purpose of correcting errors (col. 7, lines 29-40).

Regarding claim 10, Smith, Jr. discloses, in figures 1, 2A, and 2B, a multiple beam generator for use in a scanning system (col. 3, lines 52-54) but does not specifically disclose wherein said table stores corrections for scan-line intensity variations within the scanning system (col. 5, lines 41-43). Allen et al. discloses wherein said table stores corrections for intensity variation from stripe deflection across a sound field within the AOM (col. 7, lines 8-10). Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the device of Smith, Jr. with the table of Allen et al. for the purpose of correcting errors (col. 7, lines 29-40).

Regarding claim 11, Smith, Jr. discloses, in figures 1, 2A, and 2B, a multiple beam generator for use in a scanning system (col. 3, lines 52-54) but does not specifically disclose wherein said table stores corrections for intensity variation due to reflectivity variations within a polygonal scanning element that is part of the scanning system (col. 7, lines 29-40). Allen et al.

discloses wherein said table stores corrections for intensity variation from stripe deflection across a sound field within the AOM (col. 7, lines 8-10). Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the device of Smith, Jr. with the table of Allen et al. for the purpose of correcting errors (col. 7, lines 29-40).

9. Claims 12-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Smith, Jr. (4203672) in view of Fan et al. (4309225).

Regarding claims 12 and 17, Smith, Jr. discloses, in figures 1, 2A and 2B, a beam deflection control system comprising: a generator that during operation generates a first array of beams (col. 3, lines 52-54); a scanning element (2) that during operation receives a second array of beams derived from the first array of beams and scans the second array of beams over a scan region (col. 3, lines 56-58 and 63-66); and a control circuit which during operation receives a feedback signal from the deflection measurement circuit that is a measure of a deflection error between the output beam array and a desired position, wherein the control circuit generates the first control signal to reduce the defection error (col. 4, lines 51-62) but does not specifically disclose a deflection measurement circuit including a chevron pattern detector across which one of the beams of the scanned array of beams scans during operation, said chevron pattern detector generating a signal that is a measure of the location of the scanned array of beams in a direction transverse to the scan direction, said chevron pattern detector including an angled slit across which said one of the beams passes (col.6, lines 40-51). Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the device of

Smith, Jr. with the chevron pattern of Fan et al. for the purpose of measuring the beams (col. 6, lines 40-51).

Regarding claim 13, Smith, Jr. discloses, in figures 1, 2A, and 2B, a beam deflection control system, wherein said generator comprising: an acousto-optic deflector (AOD) (2) which during use receives a laser beam (1α) and generates a deflected beam (col. 3, lines 56-58), the deflection of which is determined by an AOD control signal (col. 3, lines 63-66); a diffractive element (3) which generates an array of input beams from the deflected beam (col. 4, lines 11-13 and 17-21); and a control circuit (10) which during operation generates the AOD control signal and varies a characteristic of the first control signal to account for errors in the scanning system (col. 4, lines 51-55, 63-66, and col. 6, lines 5-7).

Regarding claims 14-16, Smith, Jr. discloses, in figures 1, 2A, and 2B, a beam deflection control system but does not specifically disclose wherein the chevron pattern deflector also includes a vertical slit across which the said one of the beams passes (figures 2 and 3). Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the device of Smith, Jr. with the chevron pattern of Fan et al. for the purpose of measuring the beams (col. 6, lines 40-51).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brandi N. Thomas whose telephone number is 571-272-2341. The examiner can normally be reached on 7- 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Mack can be reached on 571-272-2333. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

BNT

BNT

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